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STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of
Standard Oil Company of California,
San Pedro Marine Terminal, for
Review of Order No. 75-53 (NPDES
Permit No. CA0000345) of the
California Regional Water Quality
Control Board, Los Angeles Region.

Order No. WQ 76- 8

BY THE BOARD:

On April 21, 1975, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), adopted Order No. 75-53 (NPDES Permit No. CA0000345) providing waste discharge requirements for the Standard Oil Company of California (petitioner) for a discharge to the Los Angeles harbor from a marine terminal located in San Pedro, California.

On May 21, 1975, the petitioner filed a petition for review of Order No. 75-53. The petition raises issues primarily of a technical nature.

I. BACKGROUND

The San Pedro marine terminal (terminal) handles refined petroleum products. These products are transferred, via three pipelines, from the El Segundo refinery to the terminal for storage and subsequent transfer to ships.

Wastewater from the terminal consists primarily of ship ballast water, line displacement water and rainfall runoff. Up to 864,000 gallons per day (gpd) may be discharged to the Los Angeles harbor. Liquid wastes are collected in a 60,000 barrel tank for

removal of settleable and suspended solids and are then transferred to a second separator for removal of oil and grease. The effluent is then discharged to the Los Angeles harbor through a diffuser which achieves calculated initial dilution efficiencies on the order of 65 to 1 during summer conditions and 45 to 1 during winter conditions.

The Los Angeles-Long Beach inner harbor is an enclosed bay within the meaning of the Enclosed Bays and Estuaries Policy.^{1/} The policy provides that treated ballast waters may be discharged to enclosed bays and estuaries when the beneficial uses of the receiving waters are protected by waste discharge requirements.^{2/}

II. CONTENTIONS AND FINDINGS

The contentions of the petitioner and our findings relative thereto are as follows:

1. Contention

The petitioner alleges that effluent limitation A.2^{3/} limiting concentrations of five-day biological oxygen demand (BOD)

^{1/} Water Quality Control Policy for the Enclosed Bays and Estuaries of California, adopted by the State Water Resources Control Board on May 16, 1974, Resolution No. 74-43.

^{2/} Chapter I, A, Footnote 2, Enclosed Bays and Estuaries Policy.

^{3/} Effluent limitation A.2 of Order No. 75-53 provides:

"A. Effluent Limitations

* * * * *

"2. The discharge of an effluent in excess of the following limits is prohibited.

to 20mg/l average and 30 mg/l maximum is unjustified because:

- (1) BOD effluent limitations are not required by the Environmental Protection Agency's draft development document for marine terminals;^{4/}
- (2) BOD effluent limitations are not required by the Bays and Estuaries Policy; and (3) BOD effluent limitations are not necessary to protect water quality.

Findings

BOD effluent limitations on ballast water (a nonprocessed wastewater) are not required by either the Environmental Protection Agency draft development document for marine terminals nor the Enclosed Bays and Estuaries Policy. However, the Water Quality Control Plan for the Los Angeles River (Basin Plan)^{5/} does justify control of oxygen consuming materials in order to protect the beneficial uses of the receiving waters.

"Constituent	Discharge Rate (lbs/day)		Concentration Limit (mg/l)	
	Maximum		Average	Maximum
	Daily	30-day Average		
Suspended solids	540	360	50	75
Settleable solids	---	---	0.1*	0.2*
BOD ₅ 20°C	216	144	20	30
Oil and grease	108	72	10	15
Phenols	1.44	0.72	0.1	0.2
Sulfide	0.72	0.72	---	0.1 "

*In ml/l

^{4/} Development Document for Proposed Effluent Limitation Guidelines on New Source Performance Standards for the Waterborne Shipping Segment of the Transportation Industry Point Source Category, April 1974--Draft

^{5/} Water Quality Control Plan Report, Los Angeles River Basin (4B).

The Basin Plan establishes the following dissolved oxygen standards for the receiving waters of the Los Angeles-Long Beach harbor:

"Dissolved oxygen shall not fall below 5.0 mg/l at any time as the result of waste discharges; when natural factors cause lesser concentrations, then controllable water quality factors shall not cause further reduction.

"For that area known as the outer harbor area of Los Angeles-Long Beach Harbors, the mean annual dissolved oxygen concentrations shall be 6.0 mg/l or greater, provided that no single determination shall be less than 5.0 mg/l. When natural conditions cause lesser concentrations, then controllable water quality factors shall not cause further reduction." ^{6/}

While dissolved oxygen concentrations in the inner harbor are above 5.0 mg/l a majority of the time, there are, on occasion, dissolved oxygen concentrations at or lower than 5.0 mg/l in the receiving waters. In the inner harbor, maintenance of the 5.0 mg/l dissolved oxygen objective in the receiving waters is primarily dependent upon the total daily mass loading of oxygen consuming substances on receiving waters and not upon the concentration at which such substances are discharged.

However, both federal and state regulations require dischargers to "...maintain in good working order and operate as efficiently as possible any facilities or systems of control installed...to achieve compliance with waste discharge requirements." ^{7/}

^{6/} Water Quality Control Plan Report, Los Angeles River Basin (4B), Part I, Chapter 4, 1-4-7.

^{7/} Section 2235.6(d), Article 5, Subchapter 9, Chapter 3, Title 23, California Administrative Code; 40 C.F.R. 124.45(f).

BOD removal is one measure of the efficiency of a treatment system such as that of the petitioner.

Consequently, although the dissolved oxygen objective for the inner harbor may be primarily dependant upon total mass loading of oxygen consuming substances rather than discharge concentration, we conclude that the Regional Board may, under the circumstances of this case, prescribe BOD effluent limitations in Order No. 75-53 in order to assure efficient operation of petitioner's treatment facilities. However, the record before us does not demonstrate that the BOD concentration limits of Order No. 75-53 were in fact based upon the BOD limits which would be achieved by petitioner's system if it were efficiently maintained and operated.

2. Contention

Effluent limitation A.2^{8/} limiting concentrations of phenols to 0.1 mg/l average and to 0.2 mg/l maximum is unjustified.

Findings

The petitioner's discharge is not solely ballast waters. Various reports indicate the discharge will, at times, contain concentrations of phenols ranging as high as 2.9 mg/l to 5.0 mg/l.^{9/} Phenols are toxic to aquatic life. A survey of technical literature

^{8/} See Footnote 3, supra.

^{9/} Preliminary Draft EIR, San Pedro Marine Terminal, Standard Oil Company, November 1974, Appendix G and the petitioner's Corps of Engineers Refuse Act Permit Program application, 1972.

indicates that toxic concentrations (96 - hr Tlm) of phenols have been shown to range from 5 mg/l to 25 mg/l for various forms of marine life. The same technical authorities suggest that receiving water concentration of phenols of 0.2 mg/l will not interfere with fish and aquatic life.^{10/}

The Basin Plan requires that the receiving waters in the Los Angeles-Long Beach harbor shall be protected from toxic substances,^{11/} and the Enclosed Bays and Estuaries Policy requires that "...toxic substances shall be removed from...waste to the maximum extent practicable through source control or adequate treatment prior to discharge."^{12/}

^{10/} Water Quality Criteria, Second Edition, 1963, McKee and Wolf, California State Water Resources Control Board Publication 3-A.

^{11/} Water Quality Control Plan Report, Los Angeles River Basin (4B), Part I, Chapter 4, I-4-8, provides:

"Toxicity

"All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration or other appropriate methods as specified by the Regional Board."

"In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged."

^{12/} Chapter I, C, 1, Enclosed Bays and Estuaries Policy.

While it is patently clear that the Regional Board is empowered to establish concentration limits to protect receiving waters from toxic substances, the concentration limits established for phenols ^{13/} are five times more stringent than those contained in the Ocean Plan. ^{14/}

We find that, in the light of the apparent toxic receiving water concentrations of phenol and the fact that the minimum dilution achieved by the petitioner's diffuser is 45 to 1, phenol effluent concentration limitations for the petitioner which are more stringent than the Ocean Plan limit for phenol are unjustified. In order to avoid encouraging the discharge of wastes to more limited bodies of water possessing less dilutional capacity than the ocean, the phenol limitation should not be less stringent than required by the Ocean Plan; however, no inference should be drawn from this finding that the State Board also finds that the time extension for compliance with the phenol limitation in the Ocean Plan should be made applicable to the discharger by the Regional Board.

^{13/} 0.1 mg/l average and 0.2 mg/l maximum; see Footnote 3, supra.

^{14/} Water Quality Control Plan for Ocean Waters of California, Chapter IV, Table B, provides:

"Table B "Concentration Not to be Exceeded More Than:

	<u>Unit of Measurement</u>	<u>50% of Time</u>	<u>10% of Time</u>
	*	*	*
Phenolic Compounds	mg/l	0.5	1.0"

3. Contention

Effluent limitation A.13 ^{15/} requiring 90 percent survival in undiluted effluent in a standard bioassay is unjustified.

Findings

As noted in Contention 2, the petitioner's discharge is not solely ballast water. Ballast waters and line displacement waters become mixed with indeterminate quantities of petroleum products and related compounds which may be toxic in nature (e.g., phenols).

The Basin Plan requires that the receiving waters in the Los Angeles-Long Beach harbor shall be protected from toxic substances and that compliance with that objective may be determined by "...bioassay of appropriate duration or other appropriate methods as specified by the Regional Board".^{16/}

The State Water Resources Control Board finds that the adoption of effluent limitation A.13 in Order No. 75-53 by the Regional Board was appropriate.

4. Contention

In the "Statement of Points and Authorities", the petitioner contends that the Regional Board may not prescribe limits for BOD nor phenols which are more stringent than that required to satisfy best practicable control technology as defined under the Federal Water Pollution Control Act unless a waste load allocation is prepared.

^{15/} Effluent limitation A.13 of Order No. 75-53 provides:

"The toxicity of any effluent containing tank cleaning wastes shall be such that at least 90 percent of test organisms in a standard bioassay shall survive in undiluted effluent."

^{16/} See Footnote 11, supra.

In support of this contention, the petitioner makes reference to the following provisions.

Section 13379, California Water Code:

"(a) Not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, which (1) shall require the application of the best practicable control technology currently available as defined under the Federal Water Pollution Control Act, as amended..."

"(c) Not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance under this division or as required under the Federal Water Pollution Control Act, as amended."

Section 2235.5(b)(3), Article 5, Subchapter 9, Chapter 3, Title 23, California Administrative Code:

"If the waste discharge requirements contain an effluent limitation for a parameter more stringent than the applicable effluent limitation for the parameter developed pursuant to Sections 301, 302, 306, and 307 of the Federal Water Pollution Act, a waste loading allocation must be prepared to insure that the discharge authorized is consistent with applicable water quality standards."

Findings

Applicable effluent limitations within the meaning of Section 2235.5(b)(3) have not, as yet, been promulgated by the Federal Environmental Protection Agency. The Environmental Protection Agency has proceeded no further to develop effluent guidelines for the petitioner's discharge than the draft of a development document.^{17/} A waste load allocation is not legally required by the authorities cited by the petitioner.

^{17/} See Footnote 4, supra.

III. CONCLUSIONS

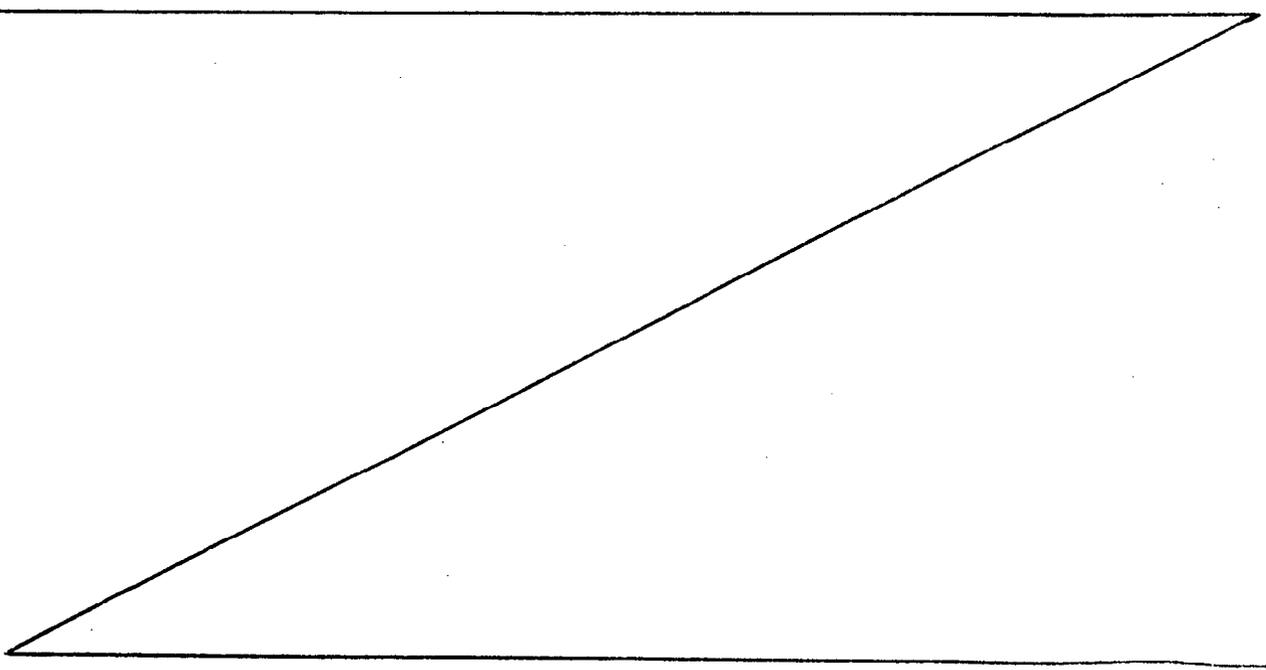
After review of the record, and for the reasons heretofore expressed, we have reached the following conclusions:

1. The Regional Board should revise concentration effluent limitations for BOD contained in Order No. 75-53 to those concentration limitations which will assure efficient operation of the waste treatment process necessary to meet the other requirements of Order No. 75-53.

2. Phenol effluent concentration limitations for the petitioner should be identical to the Ocean Plan limitations for phenol.

3. Effluent limitation A.13 in Order No. 75-53 is appropriate.

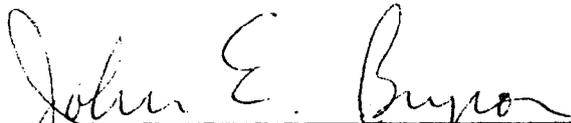
4. Section 2235.5(b)(3), Art. 5, Subch. 9, Chap. 3, Title 23, California Administrative Code, is not applicable in the absence of final promulgated effluent limitations.



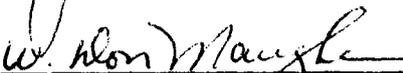
IV. ORDER

IT IS HEREBY ORDERED that the California Regional Water Quality Control Board, Los Angeles Region, shall review and revise Order No. 75-53 consistent with the provisions of this order.

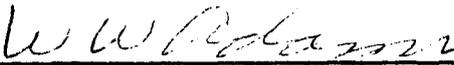
Dated: June 17, 1976



John E. Bryson, Chairman



W. Don Maughan, Vice Chairman



W. W. Adams, Member



Roy E. Dodson, Member



Jean Auer, Member

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